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March 22, 2001

Assistant Commissioner
For Patents
Washington, D. C. 20231

RE: Appellant's Supplement to the Appeal Brief (Our File No. 2821-193)

Dear Sir or Madam:

Please find enclosed documents for submission with the Appellant's Supplement to the Appeal Brief mailed on March 21, 2001. The enclosed documents include highlighted sections, but are otherwise identical to the documents previously supplied with Appellant's Supplement to the Appeal Brief.

Thank you for your attention to this matter. Should you have any questions please don't hesitate to contact us.

Very truly yours,

McCormick, Paulding & Huber LLP

By *[signature]*
Michael T. Clorite

MTC/kal
Enclosures


Stanley
STEAM
CAR

FOREWORD

There is nothing mysterious about a Stanley car. Its wheels, axles, chassis frame, body, radiator, steering gear, brakes, storage battery and dynamo are similar to other cars. Its power plant and power control are different and are very simple. The power plant consists principally of

A simple two cylinder double acting steam engine, which is attached rigidly to the rear axle, so that the engine and rear axle; in fact, the whole driving mechanism is a unit, attached to the chassis frame at three points.

A boiler which supplies steam to the engine.

A kerosene burner which supplies heat to the boiler.

A set of tanks and pumps which automatically supply water to the boiler, fuel to the burner, and lubricating oil to the engine cylinders.

A set of automatic valves which control the supply of water to the boiler and fuel to the burner.

A radiator which condenses the exhaust steam and returns the water to the water tank.

A storage battery which supplies current for light and for starting the pilot light.

A dynamo which automatically charges the storage battery.

The power control consists of a throttle lever and a reverse pedal.

Mechanical knowledge is not necessary in order to drive a Stanley car successfully, but a thorough understanding of the car will assist one to get the best results under all conditions.

STANLEY MOTOR CARRIAGE CO.,
NEWTON, MASSACHUSETTS

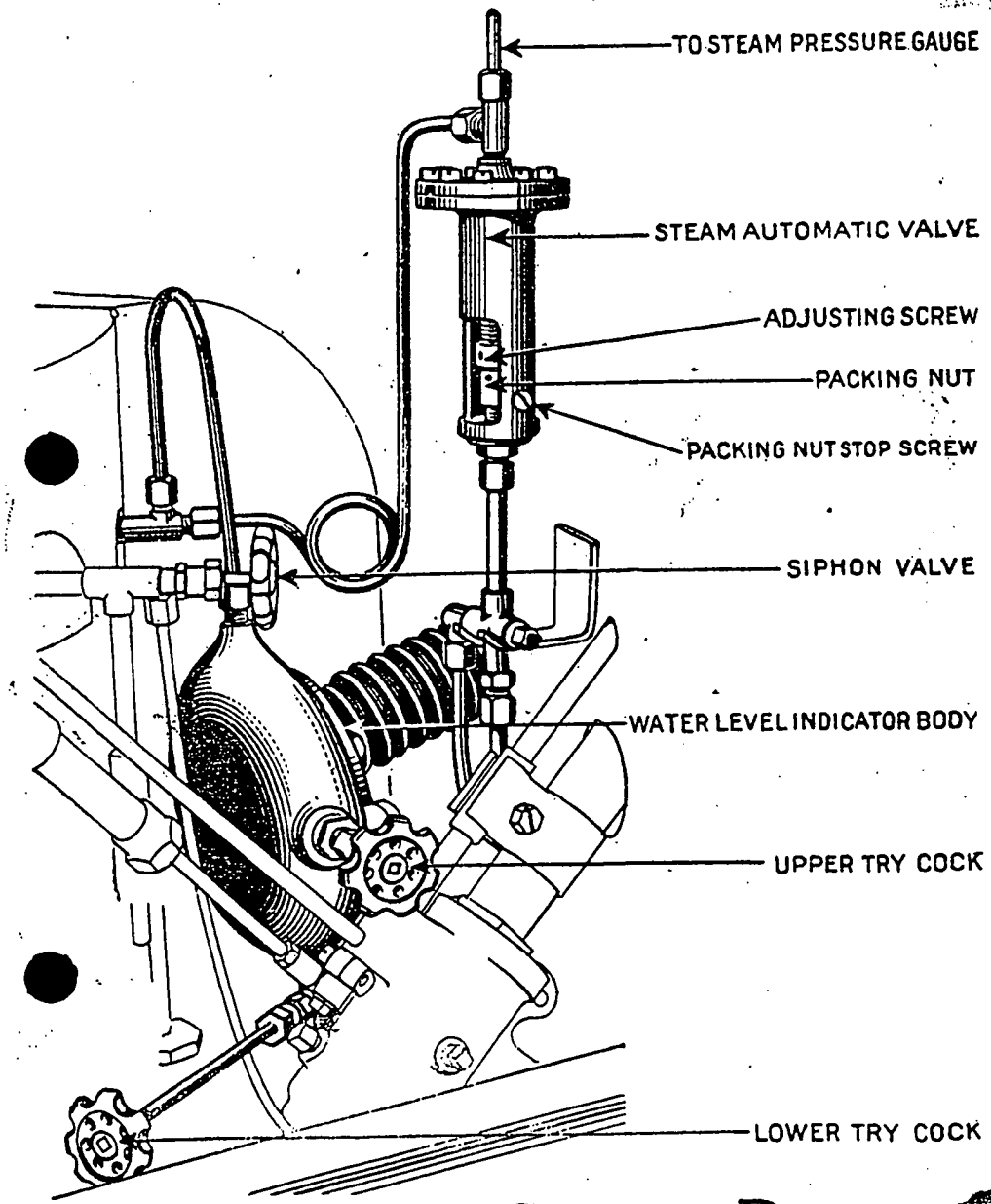


FIG 3—LEFT SIDE OF BOILER

Article 2: To Steam Up (*Continued*)

See Fig. 3

Open the lower try-cock at the bottom of the water-indicator which is between the boiler and dash on the left side, and see that runs out of it.

If it does, it indicates that the water in the boiler is above this and that is sufficient for steaming up.

More does no harm but will take more time to raise steam.

If no water runs out read Paragraph 3 of Article 4.

Repair of the Stanley Steam Automatic

By Ole B. Vikre

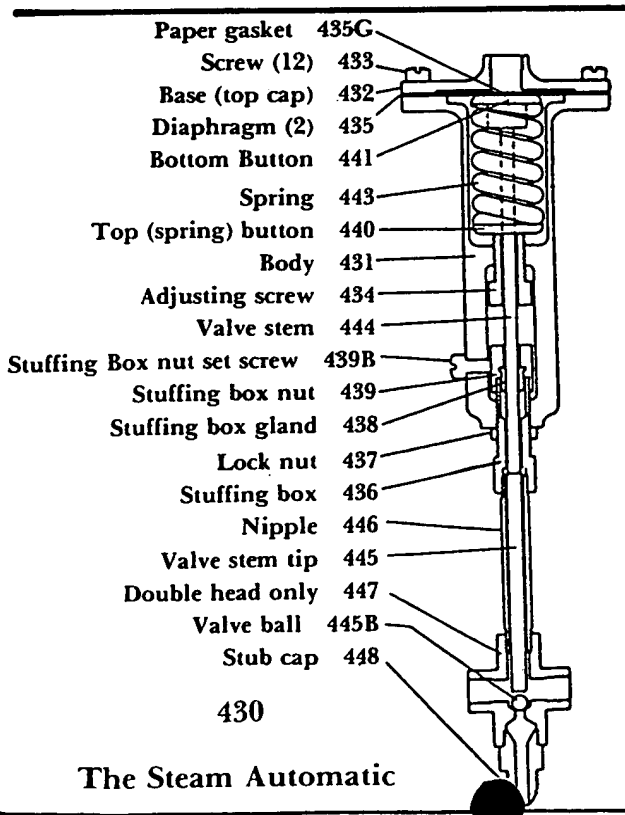
The steam automatic valve, pc. #430 (like the fuel automatic, pc. #460, see STEAM TALK article June 1986, Volume V, Number 1) is a simple diaphragm operated valve, although it works conversely to the fuel automatic.

Clean the parts with pilot fuel, and wire-brush the body, top cap, and double cap (pc. #'s 431, 432 and 447). Then machine the two twelve-hole surfaces by taking a light skim-chip to provide perfectly planed surfaces. Two 0.014" annealed beryllium copper diaphragms and a paper gasket are held between these two surfaces by means of twelve 1/4"-20-NC fillister-head screws 9/16" long.

Machine the seat in the double (or single) head (pc. #'s 442 or 447), after removing the nippel (pc. #446). This is done by turning an adapter in your lathe with a 5/8"-20-NS thread to receive the head. Using a "Letter R" drill (0.339" dia.) ground to 90 degrees included angle, just skim the seat until bright all around. Then, use a flat-bottomed "Letter R" drill to clean the shelf around the seat.

Polish the stem, particularly in way of the packing, using Crocus cloth as the final abrasive.

Assemble the double head, nipple, and stuffing box (pc.#s 447 (or 442), 446 and 436). Screw this assembly onto the same adapter used to machine the seat and ascertain that these three parts are in perfect alignment and run true.



430

The Steam Automatic

With the stem and ball in place, and before assembling the spring-case portion of the valve, pack the stuffing box.

Run a #16 drill (0.177" dia.) through the six holes in the adjusting screw and the stuffing box nut. Make a pin wrench from a piece of 1/4" drill rod about 3" long, turned down to 0.175" for a distance of 1/4" on one end. Chamfer each end 1/64" x 45 degrees to knock off any sharp edges. Then heat the small end red hot with a torch and quench in cylinder oil. This will toughen the wrench sufficiently to adjust your stuffing box nut and adjusting screw.

Assemble valve. Use Permatex cement on both sides of the paper gasket. Place the gasket against the twelve hole surface of the base, or top cap. Insert two fillister-head screws (180 degrees apart) through the top cap and gasket. Then put the two diaphragms in place., Bring the top cap and the body together and screw the two screws finger tight; then install the remaining ten screws.

Holding the body in a vise (using copper jaws), tighten the twelve screws evenly, using a heavy-duty screw driver and a 6" adjustable wrench. After assembly, bring the adjusting screw (pc. #434) up against the top spring button (pc. #440), and compress the spring about three complete turns.

With the locknut (pc. #437) backed off as far as it will go, tighten the assembly consisting of the stuffing box, nipple, double head, and stub cap (pc. #s 436, 446, 447, and 448) until the stem holds the ball firmly on the seat. Then, back off the assembly 3/4's of a turn and set the lock nut (pc. #437) against the body (pc. #431).

Check the stuffing-box nut and adjust for proper tension. Tighten the stuffing box nut set screw, making sure that there is clearance between the end of the set screw and the stuffing box nut.

Using high pressure air, set the valve to shut off at the desired pressure, usually between 500 and 600 psi. Using the heaviest duty spring in the body should make this valve work with a maximum differential of no more than 25 psi.

If these instructions are followed carefully, this valve should give trouble-free service for many years. □

445 **Valve stem tip.** Many times the valve stem tip and the valve stem (pc. #'s 445 and 444) are combined into just one stem the diameter of the valve stem.

442 **Single head.** This fitting, which contains the seat and valve ball (pc. #445B), was available with either one side outlet or two (pc. #447).

449 **Wire gauge strainer.** Although seldom found, the parts list calls for a strainer which is retained within the single head (pc. #442) or the double head (pc. #'s 447 or 447A) by means of the stub cap (pc. #448).

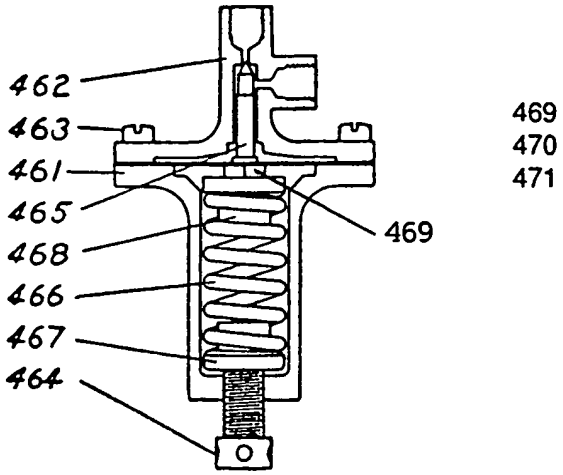
Stanley Fuel Automatics: A Modification

by Ole B. Vikre, Jr.

I first heard about this "fix" several years ago when I asked Ole's son-in-law, Brent Campbell, why he didn't bother to shut his pressure retaining valve when he parked his car for any length. How nice not to lose all your fuel pressure because you forget to shut it at the end of the day! I've been asking Ole for this ever since, so I'm especially happy to present this article now.

The Stanley fuel automatic, part #460 in the Stanley parts catalogue, has been manufactured in three distinct styles:

A. Exactly as shown in the parts catalogue as #460 — see drawing;
B. With the lower spring seat, parts catalogue #468, sitting directly on the diaphragm without the hex nut, #469;
C. The style used in the condensing cars, which has an additional part, shown in the article as piece #2, with a 7/16"-20 thread, made completely of 5/8" hex brass. It originally had a hardened steel insert that served as a seat, a spring-loaded needle also made from steel, and used a dimpled diaphragm. The needle, parts catalogue #465, and its mating seat, which was pressed into the 7/16"-20 end of piece #2, were both hardened steel. These pieces soon rusted and otherwise deteriorated, causing leakage.



460

This "new" modification uses one each of pieces #1, #2 and #3, as shown, plus a gasket and diaphragm (without a hole). It also employs a Nylatron insert (also called molybdenum-filled nylon) 1/4" in diameter x 5/16" long. This insert is placed into the end of piece #1 and swaged in place. After swaging, the end is machined square with the axis of piece #1.

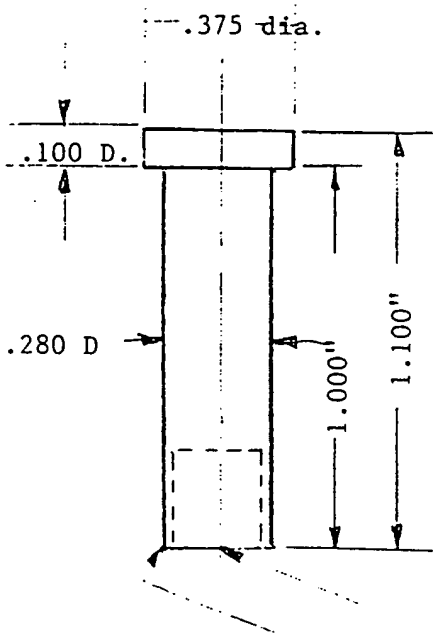
If your fuel automatic is exactly like #460 in the parts catalogue, the area in the way of the pin (or needle) will have to be carefully enlarged to accommodate pieces #1 and #3, finishing the bottom face with a flat-bottomed drill a few thousandths of an inch larger than the o.d. of your small spring, piece #3 (.422-.425").

The next step is to make up a sleeve from scrap brass the same i.d. and o.d. as the small spring, piece #3, but only 7/8" in length. Using this sleeve in place of the small spring, install it along with piece #1 into the valve cavity of parts catalogue #462 which you previously machined with the flat-bottomed drill.

The .375" diameter button on the end of piece #1 and the gasket surface of parts catalogue #642

continued on Page 15

PIECE #1



Cavity 1/4" d. x 1/4" deep for Nylatron insert.

Swage after insertion of Nylatron to retain. Insert size 1/4" d. x 5/16" long.

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